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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,474	06/23/2005	Manabu Matsui	0445-0354PUS1	2979

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EXAMINER	
STEELE, JENNIFER A	

ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
11/29/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/540,474	MATSUI ET AL.	
	Examiner	Art Unit	
	Jennifer Steele	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim 1-7 and 9 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). The claims have been amended to include dependent claims 2 and 3 in claim 1. The previous Office Action rejection of 5/7/2007 is maintained. However, Examiner is noting correction that claim 3 was inadvertently omitted from paragraph 1 and then referred to as claim 4 in paragraph 3 of the rejection and is corrected below.

Claim ~~4~~ 3 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa teaches a melt spinning process with a crimping and heat treatment. Furukawa teaches a process of drawing through nip rollers but does not teach a draw ratio. The process of the current application is to process through rollers at low draw ration under 2. The current application specification describes a process with no draw or low draw ratios and

defines low draw ratios as draw ratios under 2 on page 9, lines 4-24. As Furukawa is silent with respect to a draw ratio, it should be noted that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though a different process made the prior product. In re Thorpe, 227 USPQ 964,966 (Fed. Cir. 1985). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. In re Marosi, 218 USPQ 289,292 (Fed. Cir. 1983).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claim 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al. (US 4,469,540) in view of Ishizawa et al. (US 5,780,155). The previous Office Action rejection of 5/7/2007 is maintained.

3. Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al. (US 4,469,540) in view of Kemp et al. (US 6,543,105). Furukawa differs from the current application and does not teach a high speed melt spinning process. Kemp teaches a device for intermingling and heat treating yarns. Kemp teaches how the effect of melt spinning speed affects the draw ratio. Kemp teaches that the higher the melt spinning speed, the draw ratio can be substantially lower (col. 1, lines 30-43). Kemp teaches draw ratios all below 2. Kemp teaches the thermal shrinkage can be reduced by heat treatment of the yarn after drawing. Kemp teaches increasing the spinning speed allows for the orientation of the macromolecules in the thread to be increased in such a way that the yarn also features a commercially conventional thermal shrinkage after drawing, even without the heat treatment.

It would have been obvious to one of ordinary skill in the art to employ a technique of high speed melt spinning followed by a heat treatment and low draw ratio (under 2 as defined by current applicant's specification) motivated to reduce the shrinkage of the filament fiber.

Response to Arguments

4. Applicant's arguments filed 9/7/2007 have been fully considered but they are not persuasive. Applicant argues that Furukawa does not produce a fiber by high speed

melt spinning and do not teach the properties of the orientation index and heat shrinkage of the core-sheath type bi-component fibers. Examiner has corrected the omission of claim 3 that was not rejected over the prior art as claim 3 was noted as claim 4. Applicant also notes that Examiner stated on page 5 of previous office action that "Furukawa differs from the current application and does not teach a process with low or no draw". Examiner has clarified the 35 USC 102(b)/103(a) rejection with respect to Furukawa and stated that Furukawa is silent with respect to the draw ratio and the patentability of a product does not depend on the process of producing the product. As a result of these clarifications, Examiner has presented this Office Action as a Non-Final rejection.

5. Applicant's arguments that the invention of Furukawa and Ishizawa do not teach the process of *high* speed melt spinning and therefore the current application is not obvious over Furukawa and the combination of Furukawa and Ishizawa are not persuasive. Furukawa and Ishizawa are silent with respect to the melt spin speed and therefore the conclusion that the prior art does not teach *high* speed melt spinning is not correct. As noted above, the patentability of a product is not dependent on the process of producing the product. Examiner has provided additional grounds of rejection with respect Furukawa in view of Kemp. Kemp teaches that the process of high speed melt spinning as compared to low and medium speed melt spinning, substantially reduces the draw ratio required. Applicant teaches a low or no draw ratio is a draw ratio less than 2.

6. Applicant's arguments that the inventions of Furukawa and Ishizawa do not teach the claimed orientation index and therefore do not teach or render obvious the current application are not persuasive. Orientation index is a property of the fiber and the references to Furukawa and Ishizawa are silent with respect to this property. Applicant states, these properties are a function of the manufacturing steps used to form the fibers. These properties are inherent to the material used as well. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112- 2112.02.

7. Applicant's argues that the inventions of Furukawa and Ishizawa do not teach a heat shrinkage of 1% or less. Furukawa teaches heat shrinkage in Table 2 (col. 9 and 10), where examples have a heat shrinkage of 0%. Therefore Furukawa teaches the property of heat shrinkage in the range of the applicants claimed range. Examiner has added new grounds of rejection that teaches the process of high speed melt spinning followed by low draw and a reduced heat treatment, reduces heat shrinkage and therefore presents a teaching that it would be obvious to optimize the process limitations to produce a product with the desired properties.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Steele whose telephone number is (571) 272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1794

11/21/2007